Gentlemem,

In regard to the NPRM on BPL, I do not understand Appendix C, Para. 1.6. As written, only vertical polarized emissions from a powerline device on power lines are measured below 30 MHz at 1 meter elevation. Horizontally polarized emissions are not measured. AM broadcast is vertically polarized. Shortwave transmissions intended for the ionosphere are not necessarily. Since many antenna systems are horizontally polarized and at elevations of 10 meters or more, this technique appears to be totally inadequate.

In Part 15 emissions standards, the measurement bandwidth of the test receiver is not clearly called out below 1 GHz. It can be inferred from other paragraphs, I believe, at about 10 kHz. It would be useful to amend Part 15 to include this information clearly. Already devices such as switchmode power converters use "spreading" and "randomization" to allow them to emit the same power, but pass the emission limits measured in a narrow bandwidth. For an unmodulated carrier, the measurements in a 10 kHz bandwidth or a 1 MHz bandwidth are the same. But if the emission is modulated or spread, it can read 20 dB lower in the 10 kHz bandwidth than in the 1 MHz bandwidth, and easily pass. I do agree that 10 kHz bandwidth is typical for SW broadcast, etc., but the interference would still be severe, as it will bother tens of channels at once.

Part 15 emission standards, in general, are totally inadequate to control interference between licensed and unlicensed services. Emissions at Part 15 limits are at least 60 dB greater than atmospheric noise levels. Specifying frequency bands that are little used or will not be used by licensed services as a target for relaxed emission standards is a much better approach. But BPL as posed seems to require much more spectrum and may not be able to operate in a smaller band.

Interference mitigation was proposed. This may mean notching or adaptively notching out amateur bands when a transmission is detected. But this cannot protect the shortwave broadcast listeners that can't transmit. A "list" of candidate emission frequencies can also be created and stored to reduce interference when no transmission has been present. But any active device after the notch or in the final amplifier, or even external to the repeater itself, will cause intermodulation products to "fill in" the protected space, sometimes at only 20 dB lower level. This will mean that "protection" is only partial. Note that this includes the AM broadcast bands as only having 20 dB protection too.

Finally, BPL repeaters must be used every mile or so. This means that rural service is difficult to provide economically. It will probably require subsidization by urban users or by the power companies directly.

BPL seems to be a bad solution for the licensed users of the HF spectrum. When there are other alternatives that don't interfere with licensed services, many that use low radiating transmission lines, such as cable modems, DSL, satellite, ISDN, and telephone modems (only 56k), it would seem a poor idea to promote BPL even

further.

Thank you.

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